

Title (en)  
PHASE CHANGE MATERIAL (PCM) BELTS

Title (de)  
PHASENWECHSELMATERIALRIEMEN

Title (fr)  
COURROIES AVEC MATÉRIAU À CHANGEMENT DE PHASE (PCM)

Publication  
**EP 3835690 A1 20210616 (EN)**

Application  
**EP 20193856 A 20140220**

Priority  
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• EP 14156021 A 20140220

Abstract (en)  
A container assembly (10) for controlling the thermal condition of cargo (70) includes an insulated container (20) having a cover and a pair of belt assemblies having a plurality of pouches. The container (20) may comprise handles (30, 32) and/or a detachable and/or adjustable shoulder strap (28). The container assembly (10) further includes a plurality of phase-changing material packs (40, 50) configured to provide for the control of the temperature of cargo contained within the container (20). The phase-changing material packs (40, 50) are positioned within the belt assemblies (100, 200) and are thermally conditioned prior to use. The belt assemblies (100, 200) may be made of a durable material and may be configured to provide for the expedient exchange of thermal energy between the phase-changing material packs (40, 50) and an exterior of the belt assemblies (100, 200). The belt assemblies (100, 200) may comprise features that provide for the efficient orienting of the belt assemblies (100, 200) within the container (20) and/or the appropriate selection of phase-changing material packs (40, 50) for a respective belt assembly (100, 200).

IPC 8 full level  
**F25D 3/08** (2006.01)

CPC (source: EP US)  
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Citation (applicant)  
• US 201361766802 P 20130220  
• US 7913511 B2 20110329 - MEYER CHRIS E [US], et al  
• US 5950450 A 19990914 - MEYER BYRON KEITH [US], et al  
• US 5943876 A 19990831 - MEYER BYRON KEITH [US], et al  
• US 5483799 A 19960116 - DALTO MICHAEL [US]  
• US 5603220 A 19970218 - SEAMAN WILLIAM E [US]  
• US 5187947 A 19930223 - BREUNIG TIMOTHY A [US], et al  
• US 6860115 B2 20050301 - NORELIUS STEFAN [SE], et al  
• US 2004226309 A1 20041118 - BROUSSARD KENNETH W [US]  
• US 60447987 P

Citation (search report)  
• [IY] US 4311022 A 19820119 - HALL JOHN M  
• [Y] EP 2374443 A1 20111012 - MINNESOTA THERMAL SCIENCE LLC [US]  
• [A] US 5934100 A 19990810 - HORNICK ROBERT [US]  
• [A] US 2004151851 A1 20040805 - MILLER DRAYTON [US]

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